

# Notice of Allowability

Application No.

10/712,387

Examiner

Arnel C. Lavarias

Applicant(s)

SWANSON ET AL.

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/5/04.
2. ☒ The allowed claim(s) is/are 2-7 (renumbered 1-6).
3. ☒ The drawings filed on 12 November 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

THONG NGUYEN  
PRIMARY EXAMINER  
GROUP 2800

## **DETAILED ACTION**

### ***Response to Amendment***

1. The cancellation of Claim 1 in the submission dated 8/5/04 is acknowledged and accepted. In view of these amendments, the objections and rejections to the Claim 1 in Sections 2, 4-5 of the Office Action dated 6/28/04 are respectfully withdrawn.

### ***Response to Arguments***

2. The Applicants' arguments, see in particular Pages 3-7 of the submission, filed 8/5/04, with respect to the rejections of Claims 2 and 6, have been fully considered and are persuasive. The rejections of Claims 2-7 in Sections 7-9 of the Office Action dated 6/28/04 have been withdrawn.

### ***Allowable Subject Matter***

3. Claims 2-7 are allowed.

## **REASONS FOR ALLOWANCE**

4. The following is an examiner's statement of reasons for allowance:

Claim 2 is allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest a method for minimizing scattering of electromagnetic waves incident upon a material containing particles suspended in a medium, as generally recited in Claim 2, the method including the step of dividing the

Art Unit: 2872

scattering extinction by the associated particle size to arrive at a value for each combination, wherein the combination with the smallest value is the combination that will minimize scattering of electromagnetic waves. Claims 3-5 are dependent on Claim 2, and hence are allowable for the same reasons Claim 2 is allowable.

Claim 6 is allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest a method for minimizing absorption of electromagnetic waves incident upon a material containing particles that are suspended in a medium, as generally recited in Claim 6, the method including the step of dividing the absorbing extinction by the associated particle size to arrive at a value for each combination, wherein the combination with the smallest value is the combination that will minimize absorbing of the electromagnetic waves. Claim 7 is dependent on Claim 6, and hence is allowable for the same reasons Claim 6 is allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5527386 to Statz.

Statz discloses teachings similar to previously cited U.S. Patent No. 5534056 to Kuehnle et al. Statz is being cited to evidence a conventional method for choosing particular radiation-absorptive materials, specifically particles embedded in a solid or liquid medium (See Abstract; col. 1, lines 11-16), wherein an optical band edge is provided to this composite material by the proper choice of properties of the embedded particle, i.e. particle size, shape, density, and refractive index. The method includes calculation of the absorption and extinction cross sections as a function of particle size and incident wavelength (See for example Figures 3-4, 6-8). However, Statz lacks the particular step of dividing the scattering extinction or absorbing extinction by the associated particle size to arrive at a value for each combination, wherein the combination with the smallest value is the combination that will minimize scattering or absorbing of electromagnetic waves.

U.S. Patent No. 4928153 to Glass.

Glass is being cited to evidence a method and apparatus for particle concentration measurement (See for example Abstract; Figure 1-3); wherein the particles are dispersed on the surface of a solid (See 60, 62 in Figure 2). In determining the particle concentration, calculation of the extinction coefficient as a function of particle size for various particle refractive indices and incident source wavelength (See col. 4, line 6-col. 5, line 40). However, Glass lacks the particular step of dividing the scattering extinction or absorbing extinction by the associated particle size to arrive at a value for each

Art Unit: 2872

combination, wherein the combination with the smallest value is the combination that will minimize scattering or absorbing of electromagnetic waves.

Bashkatova et al. (T. A. Bashkatova, A. N. Bashkatov, V. I. Kochubey, V. V. Tuchin, 'Light scattering properties for spherical and cylindrical particles: a simple approximation derived from Mie calculations', Proc. SPIE, vol. 4241, pp. 247-359, 2001.)

Bashkatova et al. is being cited to evidence simulated computer calculations of light propagation through a turbid medium with particles that scatter and absorb the incident light (See for example Section I. Introduction). In particular, Bashkatova et al. discloses several calculations that are performed to derive approximate scattering cross sections as a function of size parameter (i.e size of the particle) for various values of particle refractive index (See in particular Figures 1-5, 11-15). However, Bashkatova et al. lacks the particular step of dividing the scattering extinction or absorbing extinction by the associated particle size to arrive at a value for each combination, wherein the combination with the smallest value is the combination that will minimize scattering or absorbing of electromagnetic waves.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 8:30 AM - 5 PM EST.

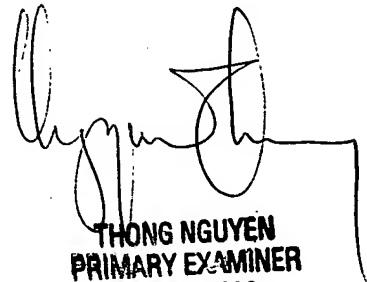
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Arnel C. Lavarias  
9/17/04



THONG NGUYEN  
PRIMARY EXAMINER  
GROUP 2800